Automotive Power MOSFET Module

NXV08H250DT1

APM17 MDC
CASE MODHH

Features

- 2 Phase MOSFET Module
  At Customer Side this Module Can Be Used as 1/2 Bridge MOSFET Module by Combining 2 Phase Out Power Terminals
- Electrically Isolated DBC Substrate for Low Rthjc
- Compact Design for Low Total Module Resistance
- Module Serialization for Full Traceability
- Module Level AQG324 Qualified. Components Inside are AEC Q101 (MOSFET) & AEC Q200 (Passives) Qualified
- UL 94 V−0 Compliant
- This Device is Pb−Free and is RoHS Compliant
- ESD Tested for HBM and CDM per AEC Q101, JS−001, JS−002

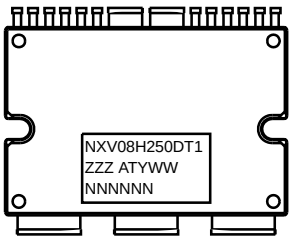
Applications

- 48 V Inverter, 48 V Traction

Benefits

- Enable Design of Small, Efficient and Reliable System for Reduced Vehicle Fuel Consumption and CO_2 Emission
- Simplified Vehicle Assembly
- Low Thermal Resistance to Junction to Heat Sink by Direct Mounting via Thermal Interface Material between Module Case and Heat Sink
- Low Inductance

MARKING DIAGRAM



NXV08H250DT1	= Specific Device Code
ZZZ	= Lot ID
AT	= Assembly & Test Location
Y	= Year
WW	= Work Week
NNN	= Serial Number

ORDERING INFORMATION

See detailed ordering and shipping information on page 2 of this data sheet.

ORDERING INFORMATION

Part Number	Package	Pb Free and RoHS Compliant	Operating Ambient Temperature Range	Packing Method
NXV08H250DT1	APM17−MDC	yes	−40~125°C	Tube

Block Diagram

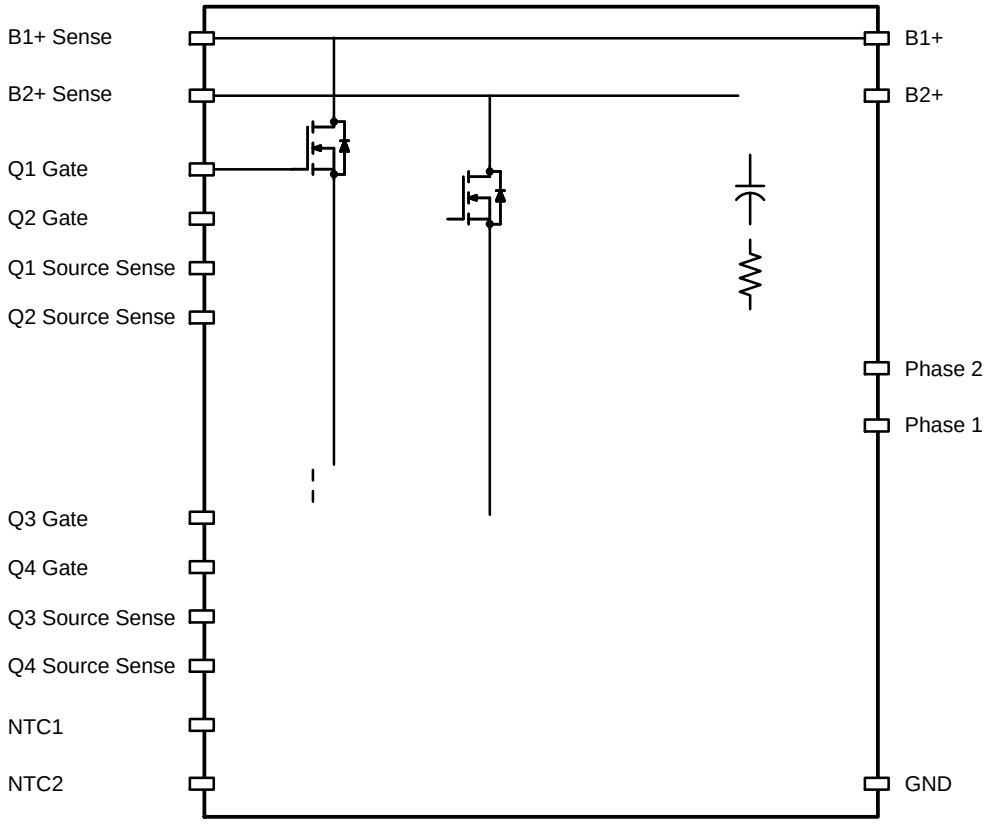


Figure 2. Schematic

ELECTRICAL CHARACTERISTICS (T_J = 25°C, unless otherwise noted)

Characteristic	Condition	Min	Typ	Max	Unit

ISOLATION VOLTAGE (Isolation voltage between the Base plate and to control pins or power terminals.)

Test	Test Condition	Test Time	Min	Max	Unit
Leakage @ Isolation Voltage (Hi−Pot)	VAC = 3 kV	Time = 1 s	–	250	μA

DYNAMIC AND SWITCHING CHARACTERISTICS (T_J = 25°C unless otherwise noted)

TYPICAL CHARACTERISTICS

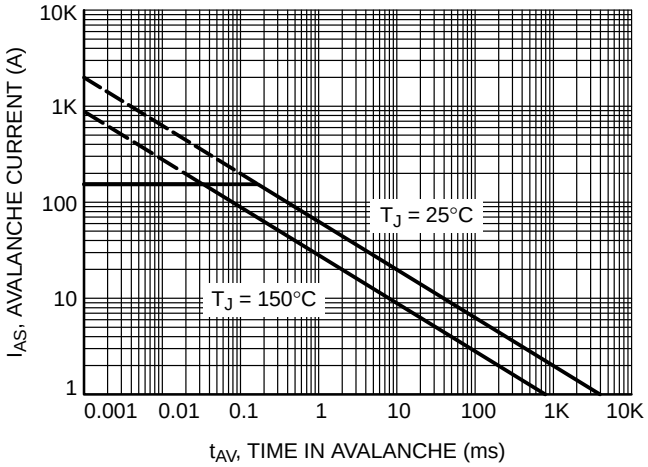


Figure 3. Unclamped Inductive Switching Capability

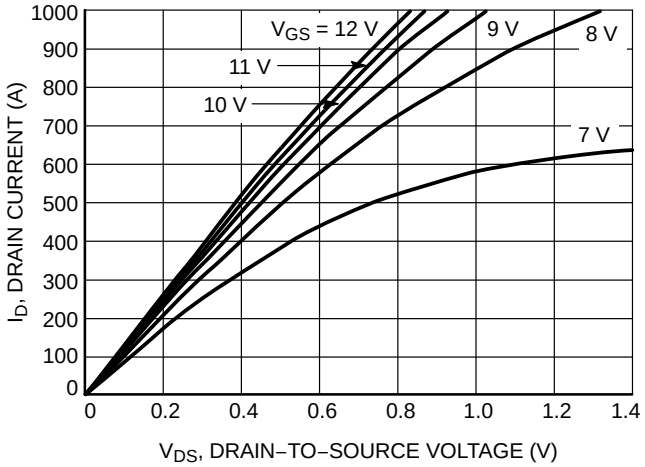


Figure 4. Saturation Characteristics

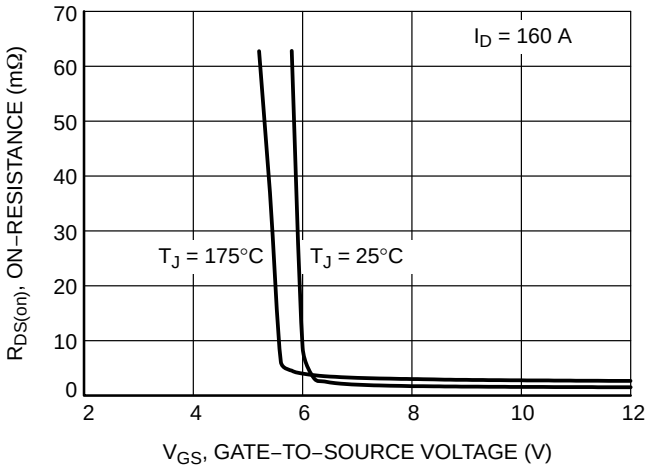


Figure 5. R_{DSON} vs. Gate Voltage

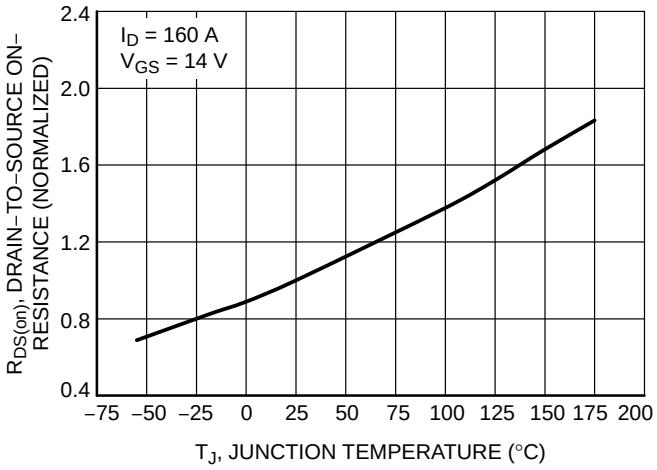


Figure 6. R_{DSON} vs. Temperature

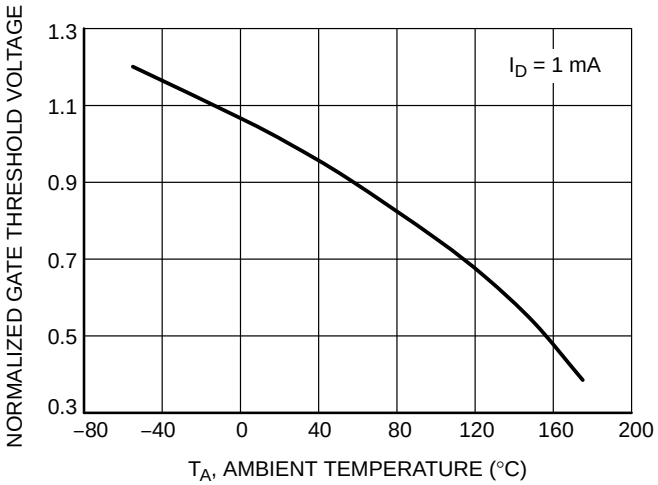


Figure 7. Normalized Gate Threshold Voltage vs. Temperature

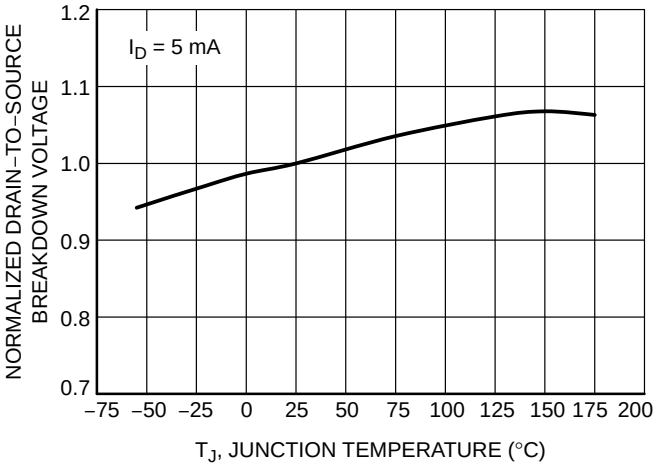


Figure 8. Normalized Drain to Source Breakdown Voltage vs. Junction Temperature

TYPICAL CHARACTERISTICS

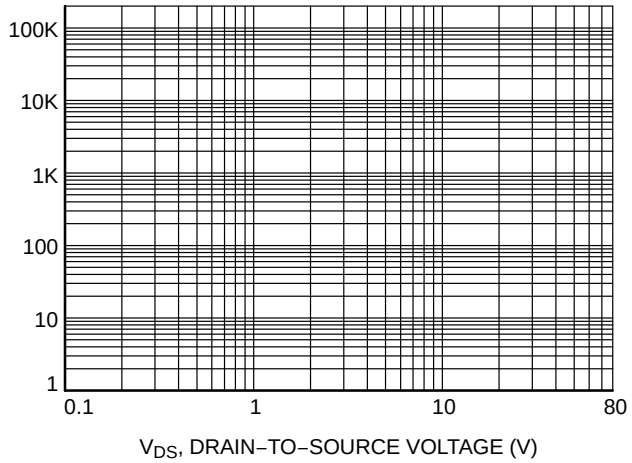


Figure 9. Capacitance vs. Drain to Source Voltage

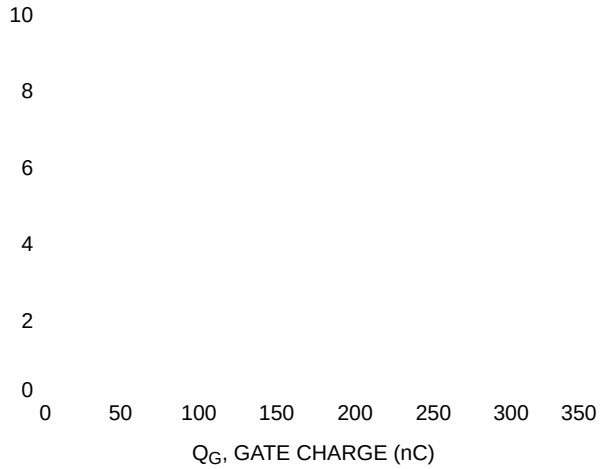


Figure 10. Gate Charge vs. Drain to Source Voltage

V_{DS}, DRAIN−SOURCE VOLTAGE (V)

Figure 11. Safe Operating Area

V_{GS}, GATE−TO−

Figure 12. Transfer Characteristics

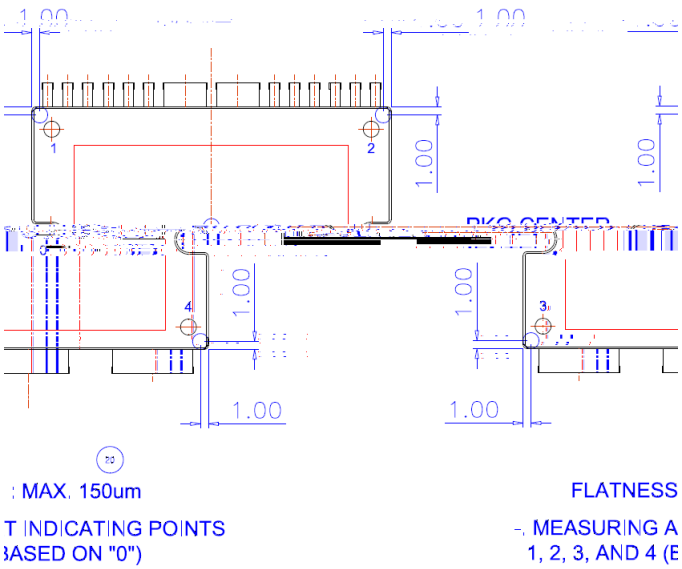


Figure 14. Flatness Measurement Position

MECHANICAL CHARACTERISTICS AND RATINGS

Parameter	Test Conditions	Min	Typ	Max	Units
Device Flatness	Refer to the package dimensions	0	–	150	um
Mounting Torque	Mounting screw: M3, recommended 0.7 N•m	0.4	–	1.4 (Note 5)	N•m
Weight		–	23.6	–	g

5. Max Torque rating can be different by the type of screw, such as the screw head diameter, use or without use of Washer. In case of special screw mounting method is applied, contact **onsemi** for the proper information of mounting condition.

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3. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR EXTR